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ART. 169.—*A Notice of the occurrences in Natural History and the Arts and Sciences which have a connection with it for a few years past, in our United States of North America.* By SAML. L. MITCHILL.—[Communicated for the New-York Farmer and Hor. Repository.]

(CONCLUDED.)

The Bony-Scaled Pike.

In the neighbourhood of the Gulf Stream, in the latitude of about 32° N. a singular fish was taken by the hook and line. The skin was covered with large, thick and almost impenetrable scales of a rhombic figure, disposed in oblique rows. It was brought to New-York for exhibition, and was the largest I ever saw, being upwards of five feet long, and of corresponding thickness. It turned out to be a specimen of the *Esox osseus*, whose scales are so flinty, that I have known them to strike fire with steel. This creature sometimes ventures into our bays and even ascends our rivers. It is not a long time since I received correct information, that one of this species had been killed by a rifle ball, in the Cumberland river, in Kentucky. They seem, like the shad, herring, eel, sturgeon and others, capable of living both in fresh and salt-water. Indeed, a preparation of one has been produced to me, with an assurance that it was once an inhabitant of Lake Ontario.

The Grisly Bear.

The most savage of the whole family of Bears, is probably the *Ursus horribilis*, of North America. The breed seems never to have been very numerous, and is so formidable from its strength and ferocity, that the hunters destroy it as rapidly as possible. An individual of this fierce and rare animal of our continent, has very recently been received from a region near the Rocky Mountains, by John J. Astor, Esq. It is a female of about a year and a half old. After having been here long enough to gratify the curiosity of his fellow-citizens, it is the intention of the owner to send it to Paris, for a place in the managerie attached to the magnificent garden and museum of the King of the French. Of the violent and indomitable nature of the grisly bear, the following account is given. When Major Pike returned to Washington City, from Santa-Fe, on the Rio Bravo, he brought with him two grisly bear cubs, which he had purchased thereabout. They were secured in cages and conveyed on the back of a mule. He made them a present to President Jefferson. I saw them frequently. After a sufficient display of them to the members of Congress and others, he sent them to Philadelphia, as a becoming gift to Mr. Peale. There they were kept until they grew to be so powerful and terrific, that to prevent mischief, it was judged expedient to kill them.

The White Arctic Bear.

A living and apparently full grown individual of this huge and dreadful animal, has been shown publicly in New-York. He is considered next in vigour and fury to the preceding. From its habit of living along the sea-coast of Greenland and the adjoining regions, and among the ice islands, it has been termed *Ursus maritimus*, or the maritime bear.

The Sea-Serpent.

This subject would scarcely be worthy of notice if it had not happened that during several years, it, or something so imagined and so called, had frequently been presented for public consideration, and if paragraphs and statements did not still, from time to time, attract the attention of their readers.

This alledged monster of the deep, first haunted the coast of Massachusetts, near Gloucester, and frightened the neighbourhood with his presence. Observations were made, and evidence was collected to a large amount. These were so considerable and imposing, that the Linnæan Society of New-England, published a book on the subject, with a figure of the enormous reptile which they called *Scoliophis*. As the fishermen and naturalists could not catch him and bring him on shore for examination, it was concluded to fortify the story by oath. Accordingly affidavits were made to great extent, containing the particulars of what the several deponents believed they had seen. And, as far as swearing went, such solemn declarations presented a strong case. Their operation, however, upon my mind, was, that there was nothing better to show than these statements on paper, which were in no sense of the word, proofs of the facts, but merely evidence of the opinion of the deposing witness as to what they had seen in the water. I, who was a believer in the first instance, was gradually sworn into scepticism, which finally ended in incredulity.

About this stage of the panic, General David Humphreys did me the honour of a visit, and requested me to listen while he read a manuscript. To this I consented. I discovered that my distinguished friend

had been to Massachusetts for the purpose of collecting all the testimony he could find concerning the Sea-Serpent. He was highly delighted with his success; and had reduced his researches into the form of letters, addressed to Sir Joseph Banks, then President of the London Royal Society. He evidently intended to take the lead of the Linnæan Society, and to attain the honour and glory of making the wonderful intelligence known, first, to the savans of Europe. He did not even vouchsafe to name me in the communication. After a very pleasant interview, during which I found that he positively thought himself right in the investigation, and determined on my part to enter into no argument about it; he requested me to receive the manuscript and engage a printer to put it to press without delay. The reason for this was, that he was obliged forthwith to return to N. Haven I made a contract in his behalf and directed the proof sheets to be sent to him there. I had a lucky escape from an association with the Sea-Serpent.

Afterwards, a mutilated specimen of a snake, killed on the land, somewhere thereabout, was brought to me preserved in alcoholic spirit. This was exhibited as the spawn or young of the great Scolophis. The head, which contains the strong *ophiological* characters, had been crushed and destroyed, But, as far as I could judge from the formation of the belly and tail, it had been a native of the land, and had of course no pretention to claim kindred with its pretended parent of the ocean.

The history of Sea-Serpentism is a very remarkable part of the doings and sayings in this enlightened age and country. For the benefit of the present generation and of posterity, it ought to be written: In proceeding to pen a short sketch of it, I must premise that I am one of the last persons in existence who would presume to put a limit to creative power. I admit that the Almighty Being could make a *water snake* as easily as a fish; and that such an animal might have been as big as a kraken, as easily as of the diminutive size of the stickle-back.

The first tale I remember to have considered seriously relative to it, was this: It had been determined to put a steam boat in operation at Boston, to coast along shore, and to convey passengers. It was foreseen that a vessel moved by steam through the currents and among the islands, would take the business from the boats moved by oars and sails. Under these forebodings, the steam vessel made a trip, with favourable auspices. Some wag they say, then wrote an allegorical description of a Sea-Serpent, that had been descried off Nahant and Gloucester, and had probably come there to consume all the small fish of the vicinity. The narrative was given with such grave diction and imposing seriousness, as to have been received by many as an actual and literal occurrence, and credited accordingly.

Long Island Sound put in a claim for a Sea-Serpent. Of this fiction, I am well satisfied of the particulars that follow. An active young fellow who had become weary of ploughing the land, bought a little boat of about fifteen tons, (which I remember to have seen) and resolved to try his luck in ploughing the waves. He named his vessel the Sea-Serpent. She was employed mostly in carrying country produce to the New-York market and bringing manure back; with the advantages of passengers when any offered. This boat was on her way from Mamaroneck harbor or thereabout, towards New-York, and was met by a sloop returning from the city. The captain of the latter, on arriving at his place of destination, was eagerly interrogated by a quidnunc for news; and being a man of some humour and fancy, told his neighbour, the querist, he had just seen the Sea-Serpent. He then described how, (alluding to some barrels on deck,) he had seen the bunches on the back; how high the head (meaning the bowsprit) was above the water; how the black and white colour (meaning the boat's painted waist) variegated; how the motion of the boom (in jibing as she was going large before an easterly wind) enabled him to observe the lashing of the tail; and that he was progressing with a speed of five or six knots an hour, which made all white before him (meaning the foam at the bows.) The good man took this joke in real earnest, went away and told it to a sensible acquaintance. This latter wrote a formal and solemn account of it, which after travelling an extensive round in the newspapers, was at length embodied in the aforesaid book, where it is registered as part of the evidences.

It was about this period of the transactions, that I received from Boston, an ichthyological production, enclosed in a letter, respectfully written, and with postage paid, submitting to me whether that article was not a piece of the Sea-Serpent's hide. It had been found on the shore of the region he had frequented; and was supposed to have been separated from his body by one of the musquet balls that had been discharged at him, and washed ashore. To this serious communication, I answered that it was simply a portion of the scales and skin of the Esox osseus, already herein described.

So much curiosity and excitement existed about this strange visitor, especially as it was alleged he had been frequently observed very near boats and vessels, that an expedition expressly for catching him, was fitted out, with a select crew, under captain Rich. Day after day, he cruized without discovering any thing like him. At length a creature was descried, which some of the men on board said they

had seen before, and that it was the Sea-Serpent.—The captain pursued the game a considerable time longer with much vigilance and patience, until he was at a distance near enough to be harpooned. He was taken on board and found to be fish of the mackerel family. I saw the preparation of it in the Boston museum, and satisfied myself that it was an individual of the fish called *Tunny* in the Mediterranean, and *Albicore* in the Atlantic Sea. He was upwards of eleven feet long and of a capacious girth.

After the capture of the fish, the persons who, when they saw him in the water, declared positively he was the Sea-Serpent, now changed their minds, and swore he was not. At length capt. Rich arrived with his prize; and, unfortunately indeed for an enterprizing, successful and worthy man, drew upon him the displeasure of the Bostonians, for attempting to impose upon them a Horse-Mackerel (as they called it) for the Sea-Serpent.

In this fervour of opinion, it was supposed for a time that a Sea-Serpent existed in Lake Ontario. A coasting navigator some where between Kingston and York, had several times during his trips, observed among the islands and rocks, something that appeared to be a long animal, with vertical flexures of the back, resembling humps or lumps, of variegated black and white hues. He told some of his acquaintance what observations he had made, and that he intended the next time to take a nearer view. He did so shortly after, when the whole phenomenon ascended into the air! It was a speckled mother duck with a numerous brood of young ones. They swam in a line with the parent-bird at the head, and as they rose and descended on the waves, gave the appearance so like that ascribed to the Sea-Serpent, that the captain though a wary man, would have solemnly declared, until he was undeceived, his belief in the existence of a Sea-Serpent there!

Lake Erie brought forward pretensions too for a Sea-Serpent. One of the coasting vessels navigated by three men, was steering eastward from Detroit, and discovered something afloat on the water to the eastward of the islands called the Sisters, which when they arrived at Dunkirk or thereabout, they reported at the inn and the printing office, to have been the very creature. Mr. Printer made a paragraph and inserted it in his paper. The marvel reached the ears of the sheriff of the county, a sensible man, who conceiving he knew as much about the lake as any person whatever, went on board the vessel to make enquiry about it. He found but one of the people on board, whom he interrogated closely about the wonderful sight with which they entertained the neighbourhood. The sailor was soon implicated in contradictions. The querist aware of the fellow's confusion, asked him if he was not ashamed of himself for propagating such falsehoods? He then said if the sheriff would not be affronted, he would relate the whole story just as it was. At the place aforesaid, they passed a dry tree afloat, and concluding that the butt-end would do for a head; some knots on the body for bunches; and the top for a tail, they would have a little pastime by telling a story of a Sea-Serpent, which they thought Lake Erie was as much entitled to as any other place. The whole three had agreed to support the story.

Now, after all these mistakes and deceptions, every person of consideration may admit that the gambols of porpoises, the slow motions of basking sharks, and the yet different appearance of balœnopterous whales, all of which have fins on their backs, may have given rise to those parts of the narrations, not already herein commented upon.

Fall of Meteoric Stones in Tennessee.

I might, I suppose, consistently enough, terminate this discourse, by reason of its length and of the time consumed in pronouncing it. There is, however, a North American occurrence which ought not to be pretermitted. I have learned that there was some months ago, a fall of meteorolites or aereal stones, at or near Nashville, in Tennessee. The recital has something of the remarkable in it. Mr. Depeyster, one of my friends, first gave me parole information of the memorable event. I observed to him, that if the like shower had happened in any part of Europe, or in any section of Africa or Asia, under European sway, the world at large would have had regular notice of so memorable an occurrence, through the diaries and periodicals. He said the event had been noticed in the western journals. It seems that it was not thought worthy to be copied into the eastern and northern gazettes. I went to one of the great newspaper offices and sought it in vain. Failing in this way, I wrote to one of my correspondents in that region, requesting as circumstantial an account as he could prepare for me. I received an answer that my request would command his attention, and that I might expect to receive as full and fair an exhibition of the phenomenon, as he could give me; accompanied, when a conveyance should offer, with a sample of the atmospheric goods.

Without stopping to discuss the question whether these celestial visitors come from the sun, the moon, opaque bodies moving round our planet, or volcanic ejections, I utter my own sentiment that they are formed within its atmosphere, from bodies elevated from its surface by chemical and mechanical attenuation and subdivision, into high regions, and precipitated by virtue of the approximation of the attenuated particles under the influence of fire-balls, luminous meteors and flashing exhibitions. If the particles of any substance, gold itself for example, are rendered suf-

ficiently minute, they may be more than an equipoise with the atmosphere, they may rise in it. After their elevation, it seems as if they might be made to approximate and coalesce, by means of an electrical explosion, consuming a considerable quantity of hydrogenous gas. The aggregated particles being now too heavy for suspension, fall to the earth in lumps of different sizes. The stones appear to be universally of igneous origin.

Botany.

There is a peculiar propriety in congratulating you on the progress made in North American Botany.—Since the publication of Pursh's Flora, supplements and additions from various sources, have been made. The compendium of Professor Torrey, laid before the public since the appearance of Eaton's Manual, greatly facilitates its study in the middle, northern and eastern states; while the communications of James on the discoveries in the regions beyond the Mississippi; of Halsey among the cryptogamics, and of Schweinitz in the Carexes, rank among the valuable researches of the time.

So in regard to ornithology, Prince Charles L. Bonaparte has shown himself a worthy follower of Wilson. His continuation of the history of our native birds, is a splendid performance. His remarks on Wilson's nomenclature, evince great acuteness.—His exhibition of the genera, show how profoundly he has studied the subject. This branch of national science may now be considered as nearly complete.

Professor Gadman has paid such close attention to mazology, that apparently little is required to be added to the denominations of man, bats, quadrupeds and whales. The history of all these creatures, indigenous to our section of the western hemisphere, is very well posted up and written out.

ART. 170.—*Causes of Cough in Sheep.*

We have often, in the course of our agricultural life, had occasion to notice the destruction from disease, which has been made among sheep, particularly lambs, and with what marked indifference the loss of ten or twenty of these valuable animals was viewed by their owner, without a single attempt to enquire into the nature of the disease, or make one experiment to remove its cause. It is much to be regretted, that every farmer who attempts to raise sheep, does not, by some means, put himself in possession of some information relative to diseases which are liable to invade the health of his flock. We do not know a more ready and cheap source from which to obtain this information, than newspapers.

A late writer, upon diseases incidental to sheep states that he has discovered the cause of a malady, (the cough) which has, at times, made the most destructive havoc among our flocks. He derives his information from the carcase of a lamb, which he dissected, and found deposited in its lungs a large quantity of worms, which no doubt were the cause of its death. The writer thus remarks:

"Feeling a lively interest in the prosperity of the sheep business in this country, having a flock myself, I have thought proper to communicate the following facts and observations to the public, with a view to excite inquiry and elicit information in relation to that disease which has carried off so many of these useful animals.

Some time in February last, I looked at a flock of yearling lambs, (about 200 in number,) belonging to J. R. which I had seen in the fall; at this time they were in a thriving condition. In February when I examined them, several had died and the remainder very poor, and a general cough prevailed amongst them, which increased with a shrill sound, a dull and heavy appearance, and extreme emaciation. Some time after, I dissected a sheep of this flock, which had fallen a victim to this disease. * * *

I laid the lungs open, and in the cellular substance of the lungs and in the bronchial vessels, there were a multitude of worms about as thick as a linen thread, and from one to six inches in length, exceedingly sharp pointed at one end, and that end of a chesnut brown color, the rest of it of a pale white color. In a day or two after, I dissected another sheep while it was yet warm, and found the appearance precisely the same, only that the worms were alive, in the other they were dead. I directed Scotch snuff to be given to the sheep which seemed to be diseased, on their food morning and evening, and tar and sulphur once a day. They appeared to improve in health immediately. The same application was used in a neighbouring flock, and apparently with good effect. Whether it is a remedy for the disease I will not undertake to decide, as but one or two experiments have been made; but it may be deserving a further trial." *Delaware Adv.*

ART. 171.—*Forest and Ornamental Trees.*

J. S. Skinner, Esq.—I send you the following in answer to the queries of T. R. in the American Farmer of the 7th November, so far as experience will warrant.

The maple (sugar) sheds its seeds in September. This is the time to gather and to sow them. In the autumn of 1826, I gathered a bushel of the seed and sowed it. Not a seed vegetated in 1827, but last spring they came up abundantly. They were sown thickly upon a bed of light loam, and covered with an inch of earth. Their growth has been trifling; but after the second year, if put in nursery rows, I

have found by experience that they become much more thrifty.

1. The soft, or white maple, sheds its seeds in May. On the 28th of May, 1827, I had a quantity of the seeds gathered and immediately planted. They grew two feet the first summer, and many of them which were placed in nursery rows last spring, are five and six feet high. This is one of the quickest growing trees we have, particularly on moist and wet soils, to which it is particularly adapted. It is ornamental, and makes good fuel after it has become partially dry.

2. I have repeatedly planted horse chesnut in April, with unvarying success, and have nearly four thousand growing, of different ages. The only precautions I would suggest, are, to take care that the nuts do not become heated and rancid, and that they are not covered with too much earth. From one to two inches is the proper depth to plant. They are fond of a rich, tenacious soil.

5. Beech masts are most successfully planted when they naturally fall from the tree, in autumn and should be slightly covered.

6. I have planted ash keys in April. A few came up the first summer, but ninety-nine hundredths of them did not vegetate until they had lain in the ground a twelve month. The white likes a kind loam; the black wet and gravelly locations. Those which came up the first season, and which have grown two seasons, are from two to three feet high.

7. I have not planted any walnuts but the black kind. They were put in the ground in autumn, and vegetated freely. Their growth is rapid since the two first years after planting.

9. Seeds of the mulberry may be planted on a bed of fine mould in May. I have hundreds, the seeds of which were sown in the spring of 1826. They will soon constitute a fine hedge, where protection from winds is desired.

11. The seed of the buttonwood may be gathered any time during the winter or spring, and sown in April. I sowed in the spring of 1827, and some of the plants are now four or five feet high. This tree may also be propagated by cuttings.

13. The common locust (*robinia pseudo-acacia,*) is propagated by seeds and suckers. The seeds are surrounded by a glutinous shell impervious to cold water. They should therefore be steeped in water, nearly, or quite at the boiling point, and sown when you plant beans, as the plants are, when young, very sensitive to frost. When once established, it is difficult to eradicate them, as they send up sprouts wherever the root is sundered or bruised. They are of quick growth, and constitute a valuable timber.

The glutinous resembles the common in its appearance, habits and rapid growth, and is equally prolific in suckers. It flowers beautifully, but mine have not produced seeds.

The three thorned or horny locust, as it is called, (*gledischia*) grows freely from such seeds sown in the spring. I have planted some thousands of these in hedge, with a strong confidence of their proving an excellent plant for live fence. Their growth is rapid, and the wood very hardy and compact.

14. I gathered and sowed the seeds of the elm on the same day (May 28th) that I did the white maple. The best plants are now from two to four feet high.

I have had no experience with the birch, chesnut, tulip, pine or oak, and am only commencing my experiments upon the first; and shall therefore say nothing of the manner of propagating them—except to observe, that nature is the best guide in these matters. Follow her laws; plant when the seed falls from its parent tree, and we shall seldom fail of success. Michaux's North American Sylva may be consulted by your correspondent with profit.

Your correspondent seems to be in the condition of a political candidate for office, perched on an eminence, a mark for every angry wind that blows. I advise him to remove into the vale, out of the reach of the envious elements; or if this cannot be done, to encircle his villa with all the variety of trees that grow upon his grounds, and by no means omitting fruit trees and evergreens. They may be thinned and fashioned to his taste as they advance in growth. The seeds of all he has enumerated, and many others may be easily procured; and the expense of nurturing the young plants will not be felt by a gentleman of his ardor in rural and useful improvement.

With an ardent desire that your correspondent's zeal may prove contagious, and that he may obtain a seat in Congress to reward you for your meritorious labor, I subscribe myself, very respectfully, your obedient servant, J. B.

Albany, Nov. 1828.

ART. 173.—*Outlines of Horticultural Chemistry—Vegetable Physiology.* By G. W. Johnson, Esq. of Great Totham, Eng. Con. from page 168.

I now proceed to consider those parts of plants which are apparent above ground. These consist of the stems, branches, leaves, flowers, and fruit.

Of the first two, it will be primarily necessary to sketch the anatomy. The *epidermis* is analogous to the human cuticle, or scarf-skin, being the external envelope of the whole surface. It is commonly transparent and smooth, sometimes hairy; in other instances hard and rugged, occasionally so abounding was silica or flint, as to be employed as a polisher for wood and even brass. In every instance it is a

network of fibres, the meshes of which are filled with a fine membrane. The epidermis appears to be designed as a preservative from the injurious effects of the atmosphere, to regulate the quantity of gaseous matter and moisture respired, and as a shield from the attacks of animals, &c. It is certainly devoid of sensation. The texture of the membrane within the meshes varies much in different species of plants. In very succulent plants, it is so contrived that it readily allows the absorption of moisture, but prevents perspiration. Such plants are, consequently, well qualified to inhabit hot climates and dry soils.—Neither is it at all impossible that it possesses the quality of allowing the passage of some gases, and rejecting others, as the bladder of animals permits water to pass through its texture, but is impervious to alcohol. In old trees it cracks, and, in many cases, becomes obliterated, the dead layers of bark performing its offices. Immediately beneath the epidermis occurs the *cellular integument* (otherwise known as *parenchyma* and *pulp.*) It is a juicy substance, and, being the seat of colour, is analogous to the rete mucosum of man; which is red in the white and black in the negro The mass of apples, &c. is composed of it. Leaves are chiefly formed of a plate of it, enclosed by epidermis. In herbs, succulent plants, leaves, and fruits, if it is destroyed, like the epidermis of the same, it remains unrestored; but in the case of trees and shrubs, it is regenerated after each removal. In leaves it is generally green; in flowers and fruits, of every hue. It is always cellular, and evidently acts a part in the secretory system of plants.

Under the cellular integument occurs *the bark*, which, in annual plants, or branches of one year's growth, consists of a single layer, scarcely distinguishable from the older wood; in stems and branches, it is composed of as many layers as they are years of age. It is in the innermost of these, which is called the *liber*, that the vital returning circulation and secretions are carried on for the time being, almost exclusively. These layers are concentric, or, as they are usually termed, *cortical layers*; they are thicker in feeble plants than in more vigorous ones of the same species; they are formed of waving longitudinal fibres, the meshes of the network they thus constitute being filled with pulp. If the outer bark is destroyed, but the wound does not penetrate below the liber, the wound is healed up, otherwise the removed part is unregenerated. In some roots, though only annuals, the bark is composed entirely of liber, and is very thick, as in the carrot and parsnep, in which it is evidently separated by a light coloured annular mark, from the central or woody part. The liber is composed of various longitudinal tubes, in which the true sap of the individual descends after elaboration in the leaves; consequently, here are found the substances that are the peculiar products of each in the most concentrated state, as the resin of the fir, the bitter principle of the Cinchona, or Peruvian bark, *&c.* I will here pause, to remark upon some of the remedies which have been recommended for the removal of insects from the bark of trees.—Oil has been directed to be smeared over them, for the destruction of the Aphis lanigera, moss, &c.—Whether it will answer such purpose, I will not stop to argue, but will content myself with observing that a more deleterious application is impossible: for, on the same principle that it destroys the parasites, namely, by closing their spiracles and pores, and thus suffocating them, it, in a like manner, clogs up the pores of the infected tree, and, in every instance, insures a weak and unhealthy vegetation; for it is not a transient remedy, that will cease in its effects as soon as it has attained the desired end. The oil dries, and, as it were, forms a varnish over the epidermis for years, unremoved by exposure to the atmosphere; and this effect is more decidedly insured, by linseed oil being the kind recommended, it being one of the most unctuous and quick-drying of the oils. The most effectual, most salutary, and least disagreeable, is a remedy of trivial expense, and which a gardener need but try upon one individual to insure its adoption. It is, with a hard brush, dipped in a strong brine of common salt, as often as necessary, to insure each portion of the bark being moistened with it, to scrub the trunks and branches of his trees at least every second year. It most effectually destroys insects of all kinds, and moss, and the stimulating influence of the application and friction is productive of the most beneficial effects. The expense is not so much as that of dressing the trunks with a solution of lime, which however efficient in the destruction of moss, is not so in the removal of insects; is highly injurious to the trees, by filling up the respiratory pores of the epidermis; and is decidedly a promoter of canker. Let my remedy be brought by every orchardist to the test of experiment, under his own eye, that it may be effectually done, and he will not require me to theorise. Facts are stubborn opponents If the fibres emitted by the ivy, by which they cling to other trees for support, do not aid it in obtaining nourishment, yet, by filling the respiratory pores, they are injurious, and, for other reasons, should never be allowed to cling around serviceable trees. The belief that ivy draws no sustenance to itself by the attaching fibres, I cannot, however, subscribe to. Attached to the officer's barracks at Winchester, is a very fine specimen of ivy; its trunk has been severed off to a height of more than 2 feet from the ground, yet it has for years continued a healthy vegetation. That the fibres have become real roots in the inter-

stices of the wall, which is built of flints and mortar, I will not dispute; but that is only confirmatory of my belief that the ivy gains nourishment by their means.—*Gardener's Mag.*

ART. 173—*Considerations on the processes employed by Nurserymen for obtaining better sorts of Fruit, and on the means by which Nature appears to accomplish the same result.* By M. Poiteau.

The author observes, it is but rarely that improved varieties of our cultivated fruits originate with nurserymen; they are generally the productions of chance, found in the woods or hedges, or from distant corners of provinces, where the finer sorts are hardly known, and where the sorts they have are mismanaged or neglected. That "like begets or produces like," has long been considered as a law of nature among animals and some vegetables; but this law is not always uniform, especially among domesticated animals or highly cultivated plants. Yet, on this principle, our nurserymen have acted in their endeavours to obtain better kinds of fruit, by sowing seeds of the best, in the hope that they would raise something still better. It is well known that in this process they have failed. The celebrated Duhamel and his contemporaries failed in the same way.—From these and other instances, the author concludes that practitioners are wrong in their expectations of obtaining at once what can only be the result of time. He seems to infer that seedlings, apples or pears, for example, require some years and some cultivation, while they are passing from one stage of their infancy to another, before they can show their inherent qualities.

As proof of this conjecture, he instances the case of the fruit trees in the United States of America at this time. There, it appears, they have little trouble in procuring superior fruits from seed; and, that they have many excellent new kinds, their lists sufficiently testify. The cause of this he conceives to be, that the first imported fruits, which the colonists received from Europe 300 years ago, were, amidst the bustle of establishing and securing themselves in a new country, lost, from neglect or ignorance of the art of grafting; and that they only had recourse to seeds for perpetuating the kinds. These seedlings have passed through several generations, and are now arrived at that period of their existence in which their inherent qualities are fully developed.

The Americans, M. Poiteau adds, attribute this to another cause, namely, that in proportion as their newly broken up lands are ameliorated by cultivation, &c. so, in like proportion, are the qualities of their fruit. It is a common saying in Virginia, that the fruits of such or such an orchard "begin to change for the better." But this can hardly be admitted; for though such circumstance may improve the quality, it cannot change the physical characters of fruit.

After noticing the fact proved by Mr. Knight, P. H. S. that a crab, fecundated by the pollen of a good fruit, produces better kinds from seed than can be had from seeds of improved fruit, he proceeds to describe the method used by the Flemish orchardists to obtain new sorts, and which is given on the authority of M. Van Mons. The Belgians, he says, do not prefer the seeds of ameliorated fruit. When the seedlings appear, they do not, as others do, choose such only as are free from spines, having large leaves, and remarkable for the thickness and beauty of their wood; but, on the contrary, such as are most spinous, provided the spines are long, and well furnished with buds or eyes placed near together. This last circumstance they consider as an indication that they will soon show fruit. Individuals having such properties are grafted, apples on paradise, and pears on quince stocks, to hasten fructification. The first fruits of these grafts are generally bad; but whatever they are the seeds are carefully saved and sowed. The second generation, treated in like manner, begins to show improvement. Through a third and fourth the process is continued, till they arrive at a point which gives fruit worthy of being preserved.—Peaches and apricots, treated in the same way, yield excellent fruit the third generation; apples require four or five, and the pear about six, transitions. This process, concludes M. Poiteau, is only an imitation of that of nature, exemplified in America.—*Annales Soc. de Hor. de Paris.*

ART. 174.—American Institute.—*Report of the Committee on the Culture of Silk, announcing the receipt of a quantity of White Mulberry Seed for distribution.*

The American Institute have already, in March last, on the occasion of their organization, explained to their fellow-citizens in general, in an official address, the motives which had controlled, and the objects to be pursued by them, in their formation as a society; that it was the concentration of public sentiment concerning the three grand interests of our country—Agriculture, Commerce and Manufactures, and the protection of American industry in all, which was the end proposed and purpose sought by them in their capacity as an association. They respectfully also, and solicitously invited their fellow-citizens in other states to concur in their patriotic views, by adopting the plan of similar associations. And, adverting to those differences of opinion by which some of the community might be misled into the idea of a

connection between the Institute and political projects, or sectional affairs of the Republic, their address carefully expressed their unqualified wish and conviction that the welfare and prosperity of Agriculture, Commerce and Manufactures, must move hand in hand, being of equal importance in the great scale of national advantages & independence of resources. Alledging as their belief that it "was impossible that too much encouragement could be given to either class of industry, unless accompanied with measures tending to depress the others. To encourage one is to encourage all; so intimate is the relation between them—so perfect their unity and identity of interest."

In conformity with these views, the Institute have lately given their attention particularly to that most interesting branch of Agricultural industry, the produce of silk, of which these states are uniformly not possessed, and for which consequently, we are tributary to other nations, even to many of the barbarous nations of Asia. Through the united researches and experience of some of the honorable contributors to the labors of the Institute, the public have already been apprised of the perfectly favorable nature of our climate for the cultivation of the Mulberry and the raising of silk worms; and historical statements, collected by the General Government, concerning the infant establishments in our country for the raising of silk, have put beyond a doubt that this staple only asks a little exertion to be made our own; furnishing, in addition to the many branches of trade that already give us a high standing in the commercial world, a new and rich material for our manufacturers, and another valuable commodity for our commerce, adding over the whole country to the means and comforts of our increasing population.

To the sensible and judicious who desire our advancement as a nation, and the developement of our internal resources, we have only to say, that to effect this national benefit, no royal powers nor munificence; no treasury expenditures; no acts of authority; no salaried officers are required; our fellow-citizens need but to approve, and to give their concurrence, and it will be done in as small a portion of time as nature, in her invariable progression of the seasons, demands for the nourishment of the insect to be in readiness, and the growth of the precious product itself. In the hope then, that the opportunity offered by the American Institute will be freely embraced, they invite their fellow-citizens to accept seeds of the white Mulberry from the hands of their committee in such quantities as are wished for cultivation, under the stipulated directions provided in the occasion.

JOHN A. SIDELL,
T. B. WAKEMAN, } Secretaries.

The following are the directions and conditions for the distribution of the Mulberry Seeds, adopted by the Institute, viz:

Resolved, That the Mulberry Seeds which have been ordered, to be at the disposal of the Silk Committee, be distributed GRATIS, in the following manner, and with the following conditions, viz:

I. To the members of the Horticultural Society, the members of all learned, religious, and other public Institutions, possessed of ground in which the seeds can be cultivated; also, to all farmers and proprietors of land in the United States.

Conditioned.

II. That the quantity of seeds given be in strict accordance to the extent of ground which is to be appropriated by the owners thereof; that they be taken care of, and managed agreeably to printed directions, to be furnished by the Committee, and that the plants be kept until they are fit for transplanting in nurseries; that, these conditions being complied with, any seed grower, whose name shall be registered by the committee, shall have a right to dispose of the plants as their *own property*, at a reasonable price.

III. Resolved, That at ensuing seasons, and as far as convenient, the Silk Committee may be allowed to visit and inspect the grounds sown, and report to the institute the number of plants grown, their progress, condition, &c.

The seed will be left for distribution at No. 179 Broadway, between Courtlandt and Dey streets, at P. Canfield's lottery office, where printed directions may be obtained for cultivating the same.

ART. 175.—*Ornamental Trees in N. York.*—By J. BUEL, Esq. [Communicated for the N. Y. Farmer and Horticultural Repository.]

MR. EDITOR—The learned and respected Corresponding Secretary of the Hort. Society, has ascribed the failure of the ornamental trees, which have been annually planted in your parks and streets by hundreds, to the circumstance of their having been *planted too deep*. As he is professedly a student in the school of physiology, I beg leave to suggest to him *three* other causes, which I apprehend have been more fatal than the one he has noted. They are

1. The ill adaptation of trees taken from the forest to insulated and open exposures.

2. The want of fibrous roots to supply food; and

3. The want of leaves to elaborate this food, and convert it into aliment for the tree.

Trees growing in the forest have, first, a bad system of roots: those are few in number and extended in length, and are necessarily very much shortened and diminished in taking up. The fibres, which supply food to the tree, are mostly left behind, or dried up ere they are planted. The trunk and branches

have besides been shielded and protected from the winds and sun by their seniors of the forest. In their new situation they are exposed to both, the heat of the latter being accumulated by the reflection of its rays from pavements, walls, &c.

Roots are to the plant what the mouth is to the animal—they are the organs of absorption or mastication. For want of the usual supply of juices, through these, the sap vessels which convey the food to the leaves, are no longer disturbed, but become contracted and callous; and the plant fans like the muzzled ox in a rich pasture. For want of the food which surrounds, and which is destined to nourish them, but which neither can take, the plant, like the animal, must die.

The New-Yorkers are like the novices who frequently apply at nurseries for trees that will *bear fruit the first year*. They select those which are unreasonably large, generally, I should judge, from the forest. They cannot wait for the slow but sure operations of nature; but are disappointed in their attempts to counteract her laws. To counterbalance the diminution which the roots of their *large* trees necessarily undergo, they reduce the top to a corresponding size, by lopping off the branches, and with them most of the leaf-buds, destined and essential to convert the sap into aliment. Thus the natural circulation, which can alone impart health and vigor, is nearly destroyed; and if the plant lives, it must struggle for years, ere its organs and growth regain their pristine vigor.

I never knew death to ensue from planting a tree a few inches lower in the earth than it formerly stood; and I have now in my grounds an apple tree and a pear tree, living and growing, which have had from 18 to 24 inches of earth round their trunks for twelve months at a time. Plants will not die from partial inhumation of their stems, otherwise the hilling of our corn and potatoes would destroy these valuable crops.

The remedy for the evil complained of, will be found in the selection of smaller trees, from nurseries or cultivated grounds, where they are furnished with better roots than those from the forest—and when they can be taken up with their roots more entire; to have them grouted when taken from the ground, and their roots kept moist till replanted—and in leaving their branches nearly entire for the first year.—With these precautions and good planting, forty-nine out of fifty would live and grow.

Those of your readers who have been in Philadelphia, Troy, Ithica and Cortland, cannot have failed to remark the beautiful and comfortable appearance which ornamental trees give to the streets of those cities and villages; nor to have learnt, if they made the enquiry, that these trees were put out when of *reasonable* size, and suffered to retain their limbs and lungs. Two good stakes, or scantling, set in the ground, with a few strips of board nailed transverely, make an efficient and often neat protection.

Dec. 14, 1828. J. BUEL.

ART. 176.—*Manufacturing and Preserving Butter.* [Communicated for the N. Y. Farmer & Hor. Repository.]

Butter constitutes so essential a part of our diet, that every hint which tends to improve its quality, is worthy of observation. I shall therefore make no apology for the few remarks which I am about to offer to the manufacturer and the consumer.

The quality of butter depends, essentially, upon pasture; but, particularly, upon the process of manufacturing and method of preserving.

Dry and hilly grounds give the best dairies. Although moist and alluvial pastures afford the greatest volume of herbage, the dryer grounds yield the finer varieties of grasses, and their nutricious qualities are more concentrated. Hence the reputation of Goshen butter, and of the dairies of Otsego, Delaware, &c. in this state, and of Berkshire, in Massachusetts.

I do not intend to plague your readers by a labored discussion, whether it is best to churn the *milk*, sweet or sour, or the *cream* alone; nor whether a dog churn, a sheep churn, (for I have seen a churn propelled by sheep) or a hand churn, is best. All I insist upon is, that the process shall be carried on by a regular motion, in a proper temperature, and that the milk or cream shall not be suffered to become too rancid or bitter. A thrifty housewife, who manages half a dozen cows, will never suffer the latter to happen. I will therefore suppose the process of manufacture to commence, when, to use the dairy phrase, *the butter has come*, as on the subsequent management depends materially the quality of the butter.

The rules I recommend are—thoroughly to separate the butter from the butter-milk, *without the aid of water*, or any other agent than the dairy-maid's arm and butter ladle—to have a proper quantity of pure fine salt incorporated and dissolved in the mass; to pack in stone ware jars or tight firkins, and to cover with a pure brine, sufficient wholly to exclude the air from contact with the butter, until it is wanted for use.

The *practice* I recommend, from long experience, is as follows: When the butter comes from the churn put it into a clean wooden bowl, and with a wooden butter ladle, proceed to work it, by breaking it down at the sides and turning off the whey which is separated in the process, at the same time strew on the salt by degrees, so that it becomes intimately incorporated. Continue working it thus until the butter-milk is apparently all worked out. Put it then by in a

cold cellar till next morning, by which time the salt is dissolved, when the ladle is to be again applied, and continued as long as any butter-milk can be separated. The butter is then fit for use or laying down. For preserving, stone ware jars are preferable, as they impart no taste to the butter, and exclude the air. Pack down the butter without any salt between the layers, and cover with two inches of strong brine, previously boiled, skimmed and suffered to become cold. If a skum should afterwards appear on the brine, which will sometimes happen in damp cellars, renew the pickle. The impurities which rise to the surface boiling, or are found in the residium at the bottom, are far greater than any one would suppose, who is not in the habit of boiling his brine for meats, butter, &c. Butter thus manufactured and cured, will keep a twelvemonth or more perfectly sweet; and the rich delicacy of flavor imparted to that made in May and June, by the young herbage, will be in a great measure preserved. It is compact, without being too adhesive; cuts with a smooth surface, and shows neither lumps of salt, butter-milk or crumbles.

So long as the buyer will pay as much for salt and butter-milk as for butter, he must expect to be imposed upon by the seller. A notable dairy woman, observing the butter I have described, thought there was both labor and money lost in thus preparing it; for, says she, in such a roll of butter you lose two pounds of butter-milk which I sell; and she evidently prided herself for her sagacity in thus turning the penny. Competent inspectors in our cities, with authority to brand the true quality, as first, second, third, fourth, &c. would prevent impositions, improve the quality of our butter, and soon raise its character at home and abroad.

OLD DUTCHESS.

ART. 177.—*Remarks on Mr. Wilson's sketch of the different kinds of Gardens in the United States,* —*by* THOMAS BRIDGEMAN; Gardener, Seedsman, and Florist. New York.

MR. EDITOR—Your readers may perhaps conclude from my appearing again before them, that I am fond of controversy. I assure you it was with great reluctance I began it, and I now consider myself bound to continue writing as long as I can be of any service to the community in the developement of truth or the detection of error.

Far be it from me to undervalue the garden productions of this or any other country; but as Mr. Wilson has undertaken to prove, "that, owing to the superior congeniality of the American climate, her garden products far exceed those of England," he must allow me the liberty to correct his unguarded expressions and mistakes, before I can consider his writings as good authority. In page 4 of his Economy of the Kitchen Garden, he asks Mr. Cobbett, "what products he alludes to that we are deficient in?" I think I have answered this question for him, in article 148, page 235 of your Repository. Mr. W. has endeavoured to stop our mouths by calling those "Gormandizers," who would require a fresh supply of garden vegetables the whole year. He might as well say, that he cares not for the light of the sun, because he can find a candle. In the work before alluded to, Mr. W. remarks, "that he has followed the business and called himself a gardener too, for seven and twenty years in America, and has never observed any deficiency in the variety of the excellent vegetables, compared with those published in the catalogues even of London itself." Mr. W. talks about garden luxuries being confined to the rich and great in England. I would ask him how many of our citizens can procure the luxuries of Covent Garden market (as stated in page 256) even for money, that are there cheaper in the winter than common vegetables are here? How many of us can afford to eat radishes, for instance, in March, which are seldom to be got at that season, for less than sixpence per bunch, whilst in England they are sold two or three bunches for a penny; a less price than they can be bought for here at any season of the year. How is it that in "this most congenial climate," we cannot get cabbage plants in the spring of the year for less than four or five dollars per thousand, while they are frequently sold in the public markets of the United Kingdoms of England and Ireland, two months earlier than we can venture to transplant them, at from 2s. to 2s. 6d. per thousand.

In pages 235 and 256, I have pointed out eleven varieties of Brocoli, two of Cauliflower, eighteen of delicious Beans, together with Sea Kale, Artichokes, Brussels Sprouts, Mushrooms, Colewerts, &c. which are quite plentiful throughout those countries; and the evidence before us, must convince your readers, that *these great garden luxuries* may be obtained as easily there as *common vegetables* can here.

It is well known that if the people here were anxious to obtain these luxuries, there is never enough in the markets at any time of the year, for one-tenth of the inhabitants of this city to get a taste of; and though Mr. Wilson would have us believe that the "gardens of the yeomanry in country places," contain almost all the garden luxuries in the known world, I venture to say, that scarcely any of the natives know that there are any such kinds of vegetables in existence, as some of those before alluded to, and I am fully convinced that the enlightened citizens of these United States, will require better authoritive testimony than that of Mr. Wilson, or Mr. Squash,

to convince them that Mr. W's. comparisons are just. In page 192, Mr. Squash maintains, that what Mr. Loudon recommends the cottager to cultivate, must be the contents of cottage gardens ; how is it possible that the cottagers can be governed by writers on Horticulture, while not one cottager in a thousand, ever read a treatise on the subject? I know of nothing to prevent him from exercising his own judgmen in propogating those varieties which he is most fond of. He may procure Brocoli and Cauliflower plants, for instance, as easily as he can cabbage plants, and who can hinder him from raising what he likes on his own ground.

If Mr. Squash's argument be admitted, it will prove that the gardens of the yeomanry, notwithstanding all Mr. Wilson's boast, contain no greater variety of vegetables, than those of the cottagers of England ; and that the gardens of the middle and eastern states contain only a limited number of sorts, as recommended by this man of *sound judgment* and *twenty-seven years experience*. In the page before referred to, Mr. Squash quotes Mr. Loudon as having recommended the cottager to cultivate 17 kinds of vegetables, as the most profitable for occupants of that description. He then remarks, " it may be observed that the above list of cottage garden products, are only such as are recommended by a man of good judgement in these matters ; and experience has long proved that the practice of those for whom learned men have given the most wholesome instructions, generally fall rather short than exceed them."

In page 201 of your Repository, Mr. W. enumerates about 20 kinds of vegetables contained in the gardens of the yeomanry, (some of which we believe are very scarce in country places) ; and in page 107 of his Economy, after having described 23 kinds, he makes some remarks, in which he acknowledges that some of his readers do not know all the sorts he has described, he says, " it is better for those who are not anxious of swelling the variety of their garden products much beyond the quantity of things of primary importance, to *know what such things are*, in order that, in selecting all or part of which, superior articles might not be overlooked, for the incumberance of things of less value ; and for these reasons, we have been particular in describing the natural good qualities of the things we have treated upon." Amongst the 23 kinds, are new Zealand Spinnage, Brocoli, Cauliflower, Asparagus, Early Cabbage, Lettuce and Cellery ; which, it must be acknowledged are scarce in country places at a distance from our large markets ; he also includes Indian Corn, which is a field produce. Now, if we deduct these 8 kinds, it will leave only 15, being two less than Mr. Squash says the cottagers in England are recommended to cultivate. In Mr. Wilson's last list of 18 kinds, are Horse Beans and Sea Kale, which are acknowledged to be scarce here : take off these, and his list of garden product will be still more reduced. I trust the candid reader is convinced by this time, of the absurdity of gauging gardens, by books on horticulture, however sound the judgement of the writer may be. But, says Mr. Squash, Mr. Loudon states in another place, what is actually cultivated in cottage gardens—if Mr. Squash had paid proper attention to what he was reading, he would have discovered that Mr. Loudon refers to the contents of their gardens in the winter, when those of ours are nearly demolished.

Mr. Wilson insinuates, page 260, that the people of Europe cannot obtain Savoy Cabbages in the winter, " without wading up to their knees through dirt and mud, in order to procure the half rotten prize."—It may be necessary to remind the reader, that if this dirt and mud be produced from rain and snow falling on the earth, there is more falls in this country than in England ; and that cabbages must be less liable to rot in a growing state, than " when taken out of the earth and laid in the ground close together up to their necks, and covered over with straw, &c." as recommended by Mr. W. But, as I would not dispute with a man of *twenty-seven years experience*, about trifles, I shall content myself by asking how it is, that the English can raise such immense quantities of first rate garden seeds, which are sent to every part of the world, from vegetables left standing in this way ; while in " this more congenial climate," with the benefit of Mr. Wilson's instructions, we cannot save enough to raise our own seeds from. I have many times seen several acres of cabbages stand the whole winter for seed in England, and it would be difficult to find as many rotten cabbages on an acre, as I have thrown from a small bed in the spring of the year, after being laid in carefully in the manner recommended by Mr. Wilson. In page 62 of the Economy, our author acknowledges, in speaking of Cape Brocoli, " the precariousness of managing that most valuable garden production in order to obtain good seed here," and further " that it does not appear certain whether we shall *ever* be able to raise enough to prevent us from having to apply, as at present, to England for it."

In your last number, Mr. Wilson tells us how to preserve Spinnage a few months, by covering it over with straw, &c. while in England it requires no covering, but may be procured for the table in every month of the year.

In page 203 of your Repository, Mr. W. congratulates us, " that the productions of our country are not the trash of tropical climates ;" and yet he has been regaling himself and his enraptured readers, for nearly a whole year, in extolling to the very skies, a

few of those productions which grow to the greatest perfection in tropical climates: and in order to attract our attention from the point in dispute, he has been comparing the prices of such productions here with those of Covent Garden market, and by his insinuations, would fain make us believe that the country which formerly furnished us with the greater part of our fruit trees and vegetable seeds, is almost destitute of any thing in the shape of a luxury.

I very much regret that from Mr. Wilson's "long series of actual practice and careful observation," he has not been enabled to instruct the people how to raise those vegetables that have hitherto been scarce amongst us. If he had done this instead of exclaiming against foreigners and their country, he would have done much good. In his Economy, he occupies four pages in shewing us how to raise one kind of Brocoli, which he calls "one of our most delicious and valuable vegetable productions;" and then gives up the ship, leaving the British in possession of ten other varieties many of which are far superior to his, without recommending any experiment to be tried in order to obtain them. In page 260, Mr. W. says, "that Cape Brocoli can be preserved from September until April, by means of garden frames and glazed sashes;" whereas, it never appears in our markets for more than two months of the year.

It may be necessary to state, that however requisite garden frames, glazed sashes, and other sheltering may be in England, in order to produce vegetables of some kinds, they are seldom used to preserve them when once raised. Brocoli can be obtained there in some of its varieties, the greater part of the year, as easily as cabbages can here, and sometimes cheaper. In page 51 of the Economy, our author treats of Cauliflower, which he calls one of our finest vegetables, and occupies 8 pages to shew us how to raise but one kind. Before he said any thing about the difficulties of raising vegetables in England, he should have given your readers some idea of the difficulty of acquiring even a scanty supply of the two last mentioned garden luxuries; with many other kinds that may be mentioned, when compared with that of England. Abercrombie says, that Cauliflowers may be obtained in England from May until December. Mr. W. says, in page 51 of his Economy, "that no sufficient evidences have, as yet, been *ever exhibited here* to put any dependence upon a successful fall crop;" he says, "the principal or main crop, may be obtained in the month of May or June." He talks about the "fine yearly exhibitions of its stately flowers by the members of the N. Y. Horticultural Society." If he could put us into a way of raising Cauliflowers, so as to bring them within the reach of the inhabitants, he would be doing an essential service to his country. Mr. W. Phelan has told me, that he had succeeded with it for four or five years, so as to produce as good heads as any other gardener, and that he once obtained the premium from the Society. He says, that it will not pay a market gardener to raise it at 25 cents for every head, and that with the very best attention and luck, he never got half his plants to flower well. It is often sold at 50 cents per head, but the demand at that price, is not sufficient to encourage market gardeners to take as much pains in sheltering, potting and shifting, as is required to rear the most tender exotic plant. I do not mean by these remarks, to discourage gardeners or private gentlemen from attempting to raise this valuable garden production, but I consider myself called upon to make the above remarks, in order to convince my opponent of his imprudence in making such invidious comparisons.

If the reader will take the pains to obtain Loudon's Maganine for August last, he will find, page 286, that Cauliflowers were selling in Covent Garden markets in July last, at from 2s. to 2s. 6d. per dozen heads, and other kinds of vegetables proportionably cheap.

I would fain conclude here, but I cannot suppress my surprise at the effrontery of a man who has endeavoured to impose on our understanding, by garbling a work allowed by all Europe, to be a first rate production of its kind. Mr. Wilson's own extracts from this work, though introduced by him with a decidedly opposite view, cannot fail to convince his readers of the error into which he has himself been led. And, also, I cannot refrain from asking Mr. Wilson, alias Squash, in what part of Long Island we are to find the garden alluded to in page 192 of your Repository, where he says, "we might very easily behold at one view, on one single farm, a far greater portion of the luxuries of the garden than ever was grown in all the cottage gardens of England, since the days of the Romans!"

I do not wish to bias your readers by any arguments or observations that I can make use of, I shall therefore lay before them a few extracts, without note or comment, taken from Loudon's Magazine for March and April last. From these they may form some idea of the climate of Scotland, as well as that of England.

"A fine bunch of asparagus was gathered in an open garden at Attercliffe, near Sheffield, on Christmas day last."—*Sheffield Courant.*

"A fine dish of new potatoes was got on the first January last for the New-Year's dinner, which were grown in the open garden at Hermitage, the villa of Mr. M. Saul, near this town."—*Lancashire Gazette, Jan.. 26, 1828.*

"Edinburgh Green Market, Jan. 26, 1828,

"Common Kitchen Vegetables abundant & cheap.

Forced Asparagus, two shillings per hundred ; forced Sea Kale and Rhuburb Stalks, at moderate prices."

" February 23 and March 8.

" Great quantities of Cabbage. Savoy and borecole plants have been brought to market to sell for planting for the first time this season."

" March 15th.

" Cabbage plants for planting, 2s. to 2s. 6d. per thousand ; Sea Kale from 1s. 2d. to 2s. a dish ; Brocoli from 2d. to 4d. a head ; large leeks one penny per dozen. All the common articles in the greatest abundance and scarcely saleable at any price."—*Scotsman.*

Gigantic Borecole.—" I have now growing in my garden, some plants of German greens, which were put in very rich, deep, rather sandy ground, in June last. When they had grown about three feet high, I cut their tops off and stirred the earth about their roots, drawing it up a little to the stems ; the autumn being moist, they soon became covered with sprouts, and have now (January 16) the appearance of a little forest of pine trees. I expect they will be as useful to me through the winter, as Dr. Hamilton's La Vendee Cabbage would be to one of our cows."—*Chas. Sidney, Perth, Scotland.*

Horticultural Society and Garden.—Exhibited 4th of March—" Oranges from the Rev. John Luscombe, grown in the open air ; Camelias, flowered in the open air, from Mr. Charles Harrison, F. H. S. gardener to the Earl of Egremont. Also, from the garden of the Society, Sea Kale and Asparagus, from beds in the open ground ; Flat Peach of China, Flower of Poppy, Anemones, Azalea indica, Varphoenica, Prunus pseudo, Cerasus, and several varieties of Crocus."—*Loudon's Mag. for April*, 1828.

" Green Peas were crying about the city of London, on the 21st of October last, at one shilling per peck."—*N. York Eve. Post, Dec.* 2, 1828.

In addition to the above testimony, I venture to state on my own authority, without any fear of being contradicted by those who have resided long in England, that cabbage plants may be bought in any market town in that country, as cheap as they are in Scotland. I have frequently seen cart loads in the markets of country towns. The gardeners very frequently sow an acre at once, from whom the country people procure their plants ; they are seldom more than 6d. per hundred, and are often to be got at 2s. 6d. per thousand. Brocoli and Cauliflower plants, are also raised in large quantities, and are generally sold at about double the price of cabbage plants.—There is scarcely any of the peasantry of England, but may procure them, as there are very few cottages that are not within ten miles of a market town, where many country people attend every week.

I trust, Mr. Editor, that your readers will excuse the length of this article, and as I hope to be better employed in future, I produced this additional testimony in order, if possible, that this controversy might be brought to a close with the year. If Mr. Wilson, or any other person, can discover any thing wherein I am mistaken, I am open to conviction ; but it does appear to me, that Mr. Wilson should have availed himself of an opportunity of becoming better acquainted with England and this country, before he ventured to make the comparisons he has done.

I remain, sir, your's respectfully.

T. BRIDGEMAN.

Bowery road, New York, Dec. 1828.

ART. 178.—*Extract of Sumac.—From a communication of Richard W. Otis, Esq. to Dr. Saml. L. Mitchill, dated Dec. 20th*, 1828, *with a sample of the article, as prepared in Sicily.* [Communicated for the N. Y. Farmer and Hort. Repository.]

This extract contains all the efficient properties of Sumac used in dying stuffs and yarns, as well as in tanning skins. It consequently answers the same purposes, and can be substituted to common Sumac in all circumstances.

One part of this extract produces as much effect as ten parts of Sumac, and even more, its action being more immediate and penetrating.

Its qualities preserve themselves unchanged, time or age having no effect upon them.

This extract occupies one-hundredth part the volume of common Sumac, and its weight is nine tenths less. Its advantages must accordingly be calculated upon these proportions, that is to say, in regard to freight, land carriage, warehouse room, and cost of store rent, &c.

A small quantity of tepid water dissolves it.

In its application to the arts, that quantity of water only is required which is necessary for the immersion of the stuffs, threads and skins Thus almost all the fuel commonly used, is saved ; there is a great saving of labor, and in many instances boilers are unnecessary. When boiling water is not required in certain operations of dying or of tanning, a small kettle may be used, wherein the extracts may be dissolved over the fire, after which it may be poured out into a wooden vat, which may be filled up with the quantity of water wanted.

ART. 179.—*Planting Forest Trees in the streets and around public squares, for shade and ornament.*

Mr. Editor—You would much oblige a number of your readers if you or any of your able correspondents, would explain in your next number, the reasons which have induced those who have lately had

the charge of setting out considerable numbers of trees in our public squares, to divest them of every vestige of a limb or branch that formed the former head and beauty of the plant? Some, to us inexplicable, motive must actuate those who thus treat trees intended to form plants either for use or ornament. That this is their ultimate design, there is no doubt; but why such violent means should be adopted to check or totally destroy the vegetable progress of the plants, is to us altogether unaccountable; for the long experience of practical men, as well as the clearest demonstrations of the most eminent phisiological writers, have confirmed the fact, "that branches and roots are correlative parts of the plant, and that any damage sustained by the one must necessarily affect the other. That damage at the roots hurts the branches, is and always has been, the general belief, but that severely pruned branches weaken the roots, has never been so generally understood as to be regarded as a rule of practice. This, nevertheless, is perfectly consistent with our ideas of vegetable economy, as the action of both root and head, must be reciprocal, and no developement of the one can take place without the assistance of the other. In every tree there is a store of expanding powers, a previous accumulation of vegetable life, which serves for future extension and developement; and therefore to lessen this by violence, either to the root or branches, must weaken the whole system of the plant."

If the above reasoning be correct, which is maintained in Sir Henry Stewart's Planter's Guide, and corroborated in Loudon's Gardener's Magizine, what must be the injury sustained by those bare poles that have lately been planted around the Washington Square, and which have been deprived of every twig with which nature had furnished them for accelerating the progress of vegetable life?

We sincerely hope that some of your correspondents will, ere long, through the columns of your very useful publication, lay before the public explanations and directions respecting the transplanting, management and proper selection of forest trees best calculated for the purposes of ornamenting our public squares, streets and avenues.

ANTI-CASTIGATORS.

N. York, Nov. 26, 1828.

ART. 180.—BIOGRAPHY.—*Extract from an Address delivered before the Blockley and Merian Agricultural Society, on the death of their late President, the Hon. Richard Peters, by Samuel Breck, Vice President of the Society.*

"We now approach, gentlemen, a period in the life of our departed President, which brought us into close intimacy with him. It was a long period of wide-spread usefulness, in which he moved almost without a rival. As a practical farmer, Mr. Peters had from time to time communicated the results of the experiments made at Belmont, to such of his neighbors as chose to profit by them; but he had not written much, if any thing, upon agriculture, before the year 1797. His first publication was then made, and contained a statement of facts and opinions in relation to the use of Gypsum. This pamphlet circulated widely, and produced such a change in husbandry, by introducing the culture of clover, and other artificial grasses, as gave, we all know, a magical increase to the value of farms. Estates which until then were unable to maintain stock, for want of winter fodder, and summer pasture, were suddenly brought into culture, and made productive. Formerly, on a farm destitute of natural meadows, no stock could be supported; and even where natural meadow existed, the barn yard was exhausted to keep up sufficient fertility, (in the absence of irrigation,) to feed a very few horses and black cattle.

Such was the situation of our husbandry, for some years after the revolution. It is proper to advert to it, that we may understand the full extent of our obligations to the Judge. In the year 1770, he was shown the effects of gypsum on clover, in a city lot, occupied by Mr. Jacob Barge, on the commons of Philadelphia.

The secret of its powerful agency, came from Germany, where it was accidentally discovered. Mr. Peters obtained a small quantity, which he used successfully, and gradually promoted its consumption, until by his example, and his publications, the importation from Nova Scotia alone, into the single port of Philadelphia, increased to the enormous amount of fourteen thousand tons annually. This was before the discovery of that fossil in the U. States.

Inquire in the counties of Chester, Lancaster, and others around us, where clover is so beneficially cultivated, how much is due to that excellent man, for the great pains he took to extend the use of gypsum? On this subject, I very recently transmitted to the Judge, a testimonial of gratitude from one of the most intelligent persons of Lancaster; who unhesitatingly ascribes to Mr. Peter's book on plaister, and his other agricultural essays, the merit of having produced a good part of the rich cultivation, for which that county is so celebrated. But his rural labours were not confined to the tilth of the ground; to the mere variety of grasses, or alimental improvement of the soil which produced them; for we find him zealously employed in mending by crosses, the breed of sheep and other animals. To him was confided the care of the broad-tail Barbary rams, procured at Tunis, by General Eaton. The Judge placed them advantageously, and pressed on the farmers, by re-

peated written exhortations, the propriety of using them.

In order to appreciate properly the industry of this gentleman, in treating on husbandry and matters auxiliary to it, we must consult his voluminous communications, published in the Memoirs of the Philadelphia Agricultural Society. Take, for instance, the first volume. There we find him discussing with his accustomed animation, and clear and elegant style, the following topics—

On hoven cattle. On peach trees.
On yellow water in horses. On gypsum.
On the thickness, cement and materials of walls.
On orchards. On coarse flour. On brown bread.
On the force of habit, as it relates to esculents.
On new herbs and shrubs appearing after firing woods.
On trench ploughing. On hemlock for live fences.
Remarks on, and plan of, a stercorary.
On changes of timber and plants.
On races of animals extinct.

These numerous articles, so various in their character, are, as I have said, contained in the first volume, and are all copiously and ably treated by him. The succeeding volumes are no less rich in original essays on the science and art of agriculture, from the same prolific pen. Perhaps it is not estimating the *quantity* of his labour too high, if we place it at one fourth of each volume; the *quality* of these productions, must be valued according to their wide circulation, and great popularity.

This distinguished citizen, always vigilant in promoting objects of public utility, founded our Society, and presided over it from the day of its creation until his death. You, gentlemen, will one and all, I confidently assert, most readily and most gratefully bear witness to his constant solicitude for the advancement of the objects of our association. How often has he pressed us to attend to them! His superior sagacity could discover a usefulness in labours, which we had not before thought important. When, at length, we yielded to his wishes, and consented to register the occurrences on our farms, how much information was elicited! The improvement derived from this mutual examination, was acknowledged by us all. It is much to be regretted, that these business-like meetings have been few and far between. But such as they were, and transient as they now are, I dare refer to the records for proof of their solid worth. What, though they have been followed by occasional listlessness, indifference, or non-attendance, that baffled the later efforts of our good President; may we not remember that our early zeal, though short-lived, was salutary! Can we not revive it? Let us try, if it be only to show our love for the man who first inspired it. Our opinions on rural matters; our knowledge of agricultural facts, then so freely communicated, stand on record; we then possessed the attributes, as well as the name, of an Agricultural Society. Those communications, evinced by their variety, their practical meaning, their good sense, and not unfrequently, their novelty; the rich fund of information among us in the concerns of husbandry, and show how profitably it may be again employed. We have but to will it, in order to restore it to its former usefulness."

ART. 181.—*A Sketch of the different kinds of Gardens in the United States, particularly those of the Middle and Eastern States.* By WILLIAM WILSON, Nurseryman. Concluded from page 261.

Town gardens are generally small inclosures, situated in rear of the houses, containing from five hundred to two thousand square feet of ground. They are generally well regulated for domestic conveniences, containing a cistern for rain water and a grass plat, &c. Here the grape vine, the peach, the nectarine, the plum and apricot flourish in great perfection. The multiflora rose, the honeysuckle, the Bignonia radicans and Ampelopsis quinquefolia, &c. are frequently to be seen decorating adjoining walls or forming pleasant arbours. In many of them are to be found some choice varieties of the rose, the double Althæa frutex, with a few good perennial & charming annual flowers, all of which, notwithstanding the indifference of soil and situation in many places, grow with a remarkable degree of healthiness and vigour.

The gardens that are attached to the country residences of opulent merchants in the vicinity of commercial cities, generally contain about one acre of ground appropriated for the cultivation of vegetables, with from one to ten or twenty acres of domain around their dwelling, on some portion of which are situated their stables and office houses, green house, orchards, shrubberies, &c. The whole under the management of a professed gardener, (an European of course) who is seldom allowed more than one or two men to assist him in cultivating and keeping every department in order. Few American gentlemen seem as yet disposed to lay out much expense in employing men for any other purposes than those of real use. The ornamental and more refined departments of gardening, are therefore very limited. The pleasant and comfortable rural habitations of a happy and independant yeomanry that every where meet the eye in viewing surrounding scenery, lessen the necessity for a desire of creating much artificial rural beauty.

The scattered remains of native woods and stately forest trees, flowering shrubs, &c. that are still to be

seen in every direction the eye can turn, animate the mind with feelings of a more exalted character than those that could be excited by the survey of a blooming pasture. In the kitchen gardens, the borders on each side of the walks, are generally appropriated for the culture of flowers and ornamental shrubs, and when this department is well managed as it generally is, it exhibits a scene of the useful and beautiful, extremely gratifying. Nursery gardens are the only other kind of gardens unnoticed. An account of these has lately been published by Mr. Buel, of Albany, and as there is nothing of importance which I would now add, I shall conclude this series of papers on the nature and state of American Horticulture, with a very few remarks.

When I first commenced to write for your publication, on the above subject, I did not withhold my real name from the essays signed an American Horticulturist, with a view to remain in concealment as a shelter to screen me from any disgrace their tenets might be thought by others capable of incurring. However, the severe criticism they soon excited from "Betula Alba," induced me to publish all the other pieces in continuation under my proper name, in order that Betula Alba might have the gratification of directing the attention of the public to the true and proper object of their disapprobation, for his writings as they stand before the public, if they are unable to sustain his credit, he craves no boon or shelter to save him from the lash of, in that case, a most just chastisement. I had long known the existence of a strong prejudice against the true character and importance of American Horticultural productions and I have observed the disheartening effects it has produced upon the minds of Americans when conversing on the subject with gardeners who had come here from England. American gardens, the very name excites their indignant sneer. What has America to compare with England? As places under the management of the first rate skill in art and science in a similar scale, she has truly nothing. The one boasts of a terrestrial paradise, and the other, in despair, is persuaded that he never has nor never will be able to taste of any thing that would deserve the name of a garden product in such a country as England. The great superiority of American climate is totally overlooked and she is denied the credit of producing from her plain agricultural furrows, the finest products except the pine apple, that can be grown in England with all their art and skill. Nothing is more common than for those who traduce the writings of others, when they find their attempts fruitless to shift their ground, and as in the case of Betula Alba in your last number, sound their own triumphant praise in loud poetic strains, as the last dirge of their vanquished rival.—But Betula Alba has mistaken his man, he has not yet departed (however much he may have wished to have been the case) with a dying "groan." The statements that he has advanced on the climate and horticultural productions of these eastern and middle states of America, are founded upon the eternal and unchangeable basis of the laws of nature. From a ten years horticultural practice in North Britain and nearly thirty years practice in this country, he thinks that from personal experience, he could guess the difference of climate between that of South Britain and this country. But the valuable publications of the Horticultural Society of London, of Loudon, and others, leave us at no loss how to appreciate our superior natural advantages. No man who considers his cause good, fears the most public and impartial investigation; and as the numbers of the New-York Farmer and Horticultural Repository are regularly transmitted by the N. York Horticultural Society, to Mr. Loudon, editor of the Gardener's Magazine, I have made out a list of such articles as I have denied can generally be raised and brought to perfection in the natural soil and climate of England, without the assistance of artificial aid, but which require no artificial aid to bring them to perfection in this climate.—If I am incorrect in my list of articles as respects England, Mr. Loudon can very easily correct me, and to whose umpire I would most confidently and cheerfully submit. If I am incorrect as to the facility with which they all grow to perfection here in the open air, I am willing to submit to the decision of Jesse Buel, Esq. of Albany, or I am willing to submit to the decision of any other two gentlemen, one in England and one in America, of equal horticultural skill and respectability, whom my antagonists may choose.

List of horticultural products which require the assistance of artificial aid to grow and bring them to perfection in the climate of England, but which grow and arrive at perfection in the open fields of the United States.

1. The Grape. 2. Peach. 3. Nectarine. 4. Cucumber. 5. Melon. 6. Water Melon. 7. Pumpkin var. vegetable marrow. 8. Squash. 9. Indian Corn. 10. Lima Bean. 11. Peppers. 12. Tomatoes. 13. Okra.

I admit the climate of England to be more favourable than that of America for the production of one species of vegetable and but one, the Vicia faba.

I would also submit to Mr. Loudon, or whoever my antagonists may appoint to determine if I am correct in having asserted that the articles mentioned in the above list, are not generally cultivated in the English cottager's gardens; neither does the Cauliflower nor Asparagus come within the reach of the generality of cottagers.

The above is a distinct statement of the position I

maintain thus far, in opposition to my antagonists, and which I think presents a fair opportunity of eliciting a correct decision upon a subject in which I should suppose every horticulturist both in this country and England, would feel interested. Prejudice or envy have never shed their blighting influence over my mind in this matter. My great object has been to present a correct view of the naturally superior congeniality of American climate to that of England for the cultivation of horticultural products, and to preserve its citizens from such erroneous and detrimental impressions as the influence and writings of such men as Betula Alba and Mr. T. Bridgeman are calculated to make. If there is a single sentence to be found in the critical remarks published in your seventh number, page 169, signed Betula Alba, that does not express or imply the most indignant hooting and sneering at American climate and horticultural products (in comparison with those of England) they mean nothing, and Betula Alba will be exonerated. The whole strain of Mr. Bridgeman's writings savour more of the slang of one better acquainted with the smack of a weaver's shuttle, than the subjects of horticulture; and for an interwoven mixture of a heterogenous mass of incoherent nonsense, they may be considered fitting for the decorations of the hero of the loom; but unless he can spin his threads of sterner stuff, they will never be able to form any impediment in the horticultural progress of the man across whose path he has thrown them. From what the columns of the New-York Farmer and Horticultural Repository contain, either my reputation as a writer on horticulture, must fall to the ground, before the sweeping stroke of a birch broom, Betula Alba, or it may remain permanent as the important and interesting truths I have therein endeavoured to illustrate and maintain. WILLIAM WILSON.

Murray Hill Nursery, Dec. 1828.

ART. 182.—*The Domestic Horticultural Society of the Western part of the State of N. York.*

Under the above title, a Society has been recently formed, embracing the counties of Onondaga, Cayuga, Seneca, Tompkins, Ontario, Wayne, Yates, Monroe, Livingston and Genesee. Introductory to the organization of the Society, an address, which we are happy to learn has been requested for publication, was delivered by Myron Holly, Esq. The following is a list of the officers:

President—John Greig.

Vice-Presidents—Daniel Kellog, Enos T. Throop, Abijah Miller, Isaac G. Ogden, Graham H. Chapin, Abraham Dox, James Wadsworth, James K. Guernsey, David E. Evans, and Herman H. Bogert.

Secretary—Andrew Glover.

Treasurer—Joseph Fellows.

Committee of Managers—William Kirkpatrick, David Thomas, Daniel L. Bishop, Charles W. Dey, Wm. H. Adams, Samuel E. Ellsworth, George Hosmer, Elisha B. Strong, Jacob Le Roy, and Bowen Whiting.

T. D. Burrall, Esq. was appointed to deliver the next address.

To see our fellow citizens flocking to the temples of Flora and Pomona, so soon after the recent political strife, is as grateful as music from the still waters of the lake on the subsiding of a storm. We may ever augur well for the perpetuity of our free institutions, when men of talent and influence, freed from the periodical spell of political excitement, unite in cultivating the arts of peace.

We look upon this movement at the west, as a very auspicious one—productive of good within the bounds of the society, and likely to be followed by similar ones in other sections of the state. Judging from the pleasing and useful nature of the objects embraced in horticulture, the taste which it cultivates, the many thriving and beautiful villages within the limits of the state, we may reasonably conclude that such associations will be more permanent than the agricultural societies, whose ephemeral existence was no credit to the public spirit and enlightened views of our farmers.—*Ed*

ART. 183.—*Signs of the Vigour, Maturity and Decay in Trees.*

Signs announcing the Vigour of a Tree.—The branches, especially towards the top, are vigorous; the annual shoots strong and long; the leaves green, vigorous and thick, principally at the summit, and falling late in autumn; the bark is clear, fine, united, and nearly of the same colour from the foot to the large branches. If at the bottom of the veins, or divisions of the thick bark, there appear smaller divisions which follow from below upwards, in the direction of the fibres, and live bark be observed at the bottom of these divisions, it is an indication that the tree is very vigorous, and rapidly increasing in size. If some of the lower branches, stifled by others, are yellow, languishing, and even dead, this is an accidental effect, and is no proof of the languor of the tree. Finally, it is a sign of vigour when branches are seen at the summit of the tree rising above the others, and being much longer; but it is to be observed, that all trees with round heads do not throw out branches with equal force.

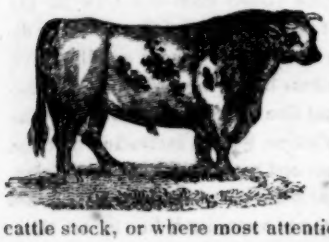
Signs which indicate that the tree is mature.—Generally the head of the tree is rounded; the shoots diminish in length each year, and the furthest shoots add to the length of the branches only by the length

of the bud; and the leaves are put forth only in the spring, and become yellow in autumn before those of vigorous trees, and at this time the lower leaves are greener than the upper. The branches incline towards the horizon, and form angles sometimes of 60° or 70°. These apparent signs, and the thinness of the layer deposited by the sap, indicate that the tree makes but small additions to itself, and now it should be cut down. The nature of the soil should be examined, as well as the kind of tree, to enable a judgment whether the tree should be left to increase still further, or whether it will be more proper to fell it.—An exact age cannot be assigned for each species; but it has been observed that an elm, situated in an insulated plantation, may be felled with advantage, when between seventy and eighty years of age.

Signs of Decay in a Tree.—When a tree becomes crowned (i. e. when the upper branches die,) it infallibly indicates, especially for isolated trees, that the central wood is undergoing alteration, and the tree passing to decay. When the bark separates from the wood, or when it is divided by separations which pass across it, the tree is in a considerable state of degradation. When the bark is loaded with moss, lichens, or fungi, or is marked with black or red spots, these signs of alteration in the bark justify the suspicions of alteration in the wood within. When sap is seen to flow from clefts in the bark, it is a sign that the trees will soon die. As to wounds or gutterings, these defects may arise from local causes, and are not necessarily the results of old age.—*London Mag.*

ART. 184.—Neat Cattle. *Of the varieties and breeds of the Bull.* [Continued from p. 268.]

(Fig. 3.)



The short-horned, often called the Dutch breed, is known by a variety of names, taken from the districts where they form the principal cattle stock, or where most attention has been paid to their improvement: thus, different families of this race are distinguished by the names of the Holderness, the Teeswater, the Yorkshire, Durham, Northumberland, and other breeds. The Teeswater breed, a variety of short horns, established on the banks of the Tees, at the head of the vale of York, is at present in the highest estimation, and is alleged to be the true Yorkshire short-horned breed. Bulls and cows from this stock, purchased at most extraordinary prices, are spread over all the north of England, and the border counties of Scotland. The bone, head, and neck of these cattle are fine; the hide is very thin; the chine full; the loin broad, and the carcase throughout large and well fashioned; and the flesh and fatting quality equal, or perhaps superior to those of any other large breed.

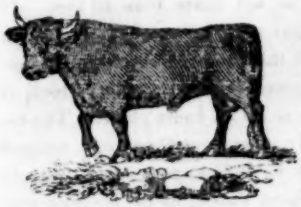
The short horns give a greater quantity of milk than any other cattle; a cow usually yielding twenty-four quarts of milk per day, making three firkins of butter during the grass season: their colors are much varied, but they are generally red and white mixed, or what the breeders call flecked. The heaviest and largest oxen of the short horned breed, when properly fed, victual the East India ships, as they produce the thickest beef, which, by retaining its juices, is the best adapted for such long voyages. Our royal navy should also be victualled from these; but by the jobs made by contractors and other abuses, it is feared our honest tars are often fed with beef of an inferior quality; however, the coal ships from Newcastle, Shields, Sunderland, &c. are wholly supplied with the beef of these valuable animals. These oxen commonly weigh from sixty to a hundred stone (fourteen pound to the stone,) and they have several times been fed to one hundred and twenty, one hundred and thirty, and some particular ones to upwards of one hundred and fifty stone, the four quarters only.

In comparing the breeds of long and short horned cattle, Culley observes, that the long horns excel in the thickness and firm texture of the hide, in the length and closeness of the hair, in their beef being finer grained, and more mixed and marbled than that of the short horns, in weighing more in proportion to their size, and in giving richer milk; but they are inferior to the short horns, in giving a less quantity of milk, in weighing less upon the whole, in affording less tallow when killed, in being generally slower feeders, and in being coarser made and more leathery or bullish in the under side of the neck. In few words, says he, the long horns excel in the hide, hair and quality of the beef; the short horns in the quantity of beef, tallow, and milk. Each breed has long had, and probably may have, its particular advocates; but if he may hazard a conjecture, it is not probable that both kinds may have their particular advantages in different situations? Why not the thick, firm hides, and long close set hair of the one kind, be a protection and security against those impetuous winds and heavy rains to which the west coast of this island is so subject; while the more regular seasons and mild climate upon the east coast are more suitable to the constitutions of the short horns.

The middle horned breeds comprehend in like manner, several local varieties, of which, the most noted are the Devons, the Sussexes, and the Herefords; the two last, according to Culley, being vari-

eties of the first, though of a greater size, the Herefords being the largest. These cattle are the most esteemed of all our breeds for the draught, on account of their activity and hardiness; they do not milk so well as the short-horns, but are not deficient in the valuable property of feeding at an early age when not employed in labor.

(Fig. 4.)



The Devonshire cattle (fig. 4. are of a high red color, (if any white spots. they reckon the breed impure, particularly if those spots run one into another,) with a light-dun ring round the eye, and the muzzle of the same color, fine in the bone, clean in the neck, horns of a medium length, bent upwards, thin-faced, and fine in the chops, wide in the hips, a tolerable barrel, but rather flat on the sides, tail small, and set on very high; t ey re thin skinned, and silky in handling, feed at an early age, or arrive at maturity sooner than most other breeds. Another author observes, that they are a model for all persons who breed oxen for the yoke. The weight of the cows is usually from thirty to forty stone, and of the oxen from forty to sixty; the North Devon variety, in particular, from the fineness in the grain of the meat, is held in high estimation in Smithfield.

Of the Breeding of Horned Cattle.

The objects to be kept in view in breeding cattle, are a form, either well adapted to fatten; well adapted for producing milk; or for labor. These three objects have each of them engaged the attention of British agriculturists; but experience has not hitherto justified the expectation that has been entertained of combining all these desirable properties, in an eminent degree, in the same race. That form which indicates the property of yielding the most milk, differs materially from that which we know from experience to be combined with early maturity and the most valuable carcase; and the breeds which are understood to give the greatest weight of meat for the food they consume, and to contain the least proportion of offal, are not those which possess, in the highest degree, the strength and activity required in beasts of labor.

A disposition to fatten, and a tendency to yield a large quantity of milk, cannot be united. The form of the animal most remarkable for the first, is very different from that of the other; in place of being flat in the sides, and big in the belly, as all great milkers are, it is high-sided and light-bellied: in a word, the body of the animal well adapted to fatten is barrel formed, while that of the milker is widest downwards. It is not probable, therefore, that the properties of two breeds of cattle, so opposite in form and general appearance, can ever be united in the same animal.

The long and short horned breeds have hitherto been in possession of the best part of the island; but various others, as the Ayrshire, the Galloway cattle, and Kyloes, might be bred with advantage in many situations, so as to be more profitable than either the short horns or the long horns. These breeds of cattle, as true quick feeders, and being kindly fleshed, or excellent eating beef, have established their character in the first market in the island. The Scotch or Kyloes are better adapted to cold, exposed, heathy, mountainous situations, than any other breed we have. Particular breeds are probably best adapted to particular situations; on which ground breeders of cattle should endeavor to find out what breed is the most profitable and best suited to their situations, and to improve that breed to the utmost, rather than to try to unite the particular qualities of two or more distinct breeds by crossing. The latter is a precarious practice, for we generally find the produce inherit the coarseness of both breeds, and rarely attain the good properties which the pure distinct breeds individually possess. In order to have good cattle of any breed, particular regard must be paid in selecting those that are the most complete and perfect in their form, shape, and other qualities, and to breed from them.

An extraordinary degree of attention has been paid to the breeding of cattle in England since the time of Bakewell, and some illustrious names might be mentioned in addition to those of professional farmers.—Pedigrees of the best cattle have been preserved with no less care, in several places, than those of race horses, and in the selection of breeders, the properties of the family from which they have descended, are matters of scarcely less importance than the form of the young animals themselves. The extraordinary prices paid for the best bred bulls and cows, show that this attention has not been without its reward.

The best bulls are either let out for the season, or cows are brought to them at a certain rate per head. The practice of letting bulls is said to have originated with Bakewell, who, so far back as 1732, let a bull for one hundred and fifty two guineas, to be used only four months; and five guineas per cow were about that time commonly paid to him and other eminent breeders.

The age at which bulls should begin to be employed, and the number of seasons they should be allowed to serve, as well as the age at which the females should begin to breed, are points regarding which practice is by no means uniform. In the midland counties, the bulls are quite commonly allowed to leap while yearlings, and if good stock getters are kept on as long as they will do business, perhaps till they are

ten or twelve years old. In other places they are employed only three seasons, for the first time at two years old. The females, in many instances, bring their first calf at the age of two years, but more commonly, perhaps, not till they are a year older; and in some of the Highland districts, where, owing to a want of proper nourishment in their infancy, they are later in coming to their full growth, the females do not often become mothers till they are about four years old.

The period of gestation with cows has been found, upon an average of a great number of experiments, to be about forty weeks. M. Tessier communicated to the National Institute of France the following observations on this subject: Of 160 cows 14 calved from the 241st to the 266th day; three on the 270th; 50 on the 280th; 68 on from the 280th to the 290th; 20 on the 300th, and five on the 308th. Cows seldom bring more than one calf at a time. When they produce twins, one of them a male and the other a female, the latter, which is called a free martin, is commonly considered to be incapable of procreation. Yet there seems to have been well authenticated instances to the contrary.

[ORIGINAL.]

ART. 185.—*A short treatise on Botany.*—(Concluded.)

XV.—OF THE CLASS TETRADYNAMIA.

This class furnishes us with many of our wholesomest and most nutritious vegetables, such as the turnip *Brassica rapa*; the cabbage *B. oleracea*; the cauliflower *B. oleracea* variety, *botrytis*; radish *Raphanus sativus*; mustard *Sinapis nigra*. The beautiful woad or indigo blue, is produced from a plant called the *Isatis tinctoria*. As plants of ornament, the *Cheiranthus* or stock and wall flowers, which are so commonly cultivated here are of this division, & the rocket *Hesperus*.

XVII.—OF THE CLASS MONADELPHIA.

The monadelphia class of L. which is fancifully termed one brotherhood, from the singular union of the anthers, contains many extraordinary plants—one very remarkable one, which grows at the C. of Good Hope, has neither leaf nor stem, but consists wholly of flower and fruit growing from the roots. It is called *Aphyteia hydnora*; it is a parasitic plant growing on the roots of a plant of the genus *Euphorbia*. The *Lobelia* and *passion flower* are sometimes placed in this class. The beautiful family of *Geraniums* which are so universally cultivated as ornaments for our parlours, is a section of this class. The cocoa tree *Theobroma cacao*, from which our chocolate is procured, is a native of S. America; and likewise of same place, the sweet and oily Brazil nut *Carolinea princeps*. These nuts are three cornered and contain a very savoury kernel, of pleasant flavor, and large quantities are exposed by our fruiterers for sale.—The most remarkable tree of this class, is the wonderful *Adansonia*, the largest growing vegetable on earth, the trunk frequently exceeds 35 feet in diameter, while its height is not more than 40 feet. It grows in Africa. Many other splendid plants adorn the tropical regions of this department, as the beautiful *Camellias*; the splendid *Barringtonia*, which is said to intoxicate fish, is an E. India plant. The no less lovely than useful cotton plant *Gossipium*, natives of S. America and the E. Indies, now so extensively cultivated in our southern states, as to become one of the principal staple articles of commerce. The *Gordonia* of the south is an elegant tree, and many native species of *Hibiscus* ornament our gardens, as well as cultivated species of *Althæa*. The sensitive plant *Mimosa pudica*, is found in this class. A very extraordinary instance of the variety of forms assumed by nature in the vegetable kingdom, may be quoted in the Hand Tree *Cheirostemon pentadactylon*, of Mexico—the flower of which very exactly resembles the claw of an ape, excepting in having five instead of four fingers, while the pistil protruding beyond the cylinder formed by the union of the filaments, bears a close resemblance to a thumb.

XVII.—OF THE CLASS DIADELPHIA

This class embraces most of the plants that have pods or legumes. The tonka bean, *Baryosma tongha*, which is used for giving a delightful scent to snuff is of this class. The beautiful scarlet bean with a black spot on it, *Abrus precatorius*, is frequently used as beeds for children. The pea nut, *Arachis hypogæa*, a native of Africa and both Indies, and cultivated in this country, particularly in the southern states, is remarkable for perfecting its fruit under ground: after maturity of the flower the germin falls to the ground and enters it. Other examples of this class are the various kinds of beans. The beautiful flowering bean, *Phaseolus perennis*, which forms so great an ornament to our gardens, flowers in the last summer months until the frost has killed other plants. The indigo plant, sainfoin, and lucerne are also of this class.

XVIII.—OF THE CLASS SYNGENESIA.

The class *Syngenesia* comprises a very great number of plants, in structure altogether dissimilar from the preceding, which we have been considering, as respects the flower. In the fall months particularly, we may observe in our country, great numbers of different Syngenesia, continuing to be the last which adorn our fields and hedges, until the severity of winter finally destroys vegetation altogether. A large

part of the flora of the U. S. consists of plants of this class. In many of the genera much obscurity exists, it being difficult to distinguish which are species and which varieties.

As examples of this class might be quoted, the Jerusalem Artichoke *Helianthus tuberosus*, from the roots of which an esculent is produced of pleasant taste and nourishing quality: the sun flower *Helianthus*, a native of S. America, but a general denizen of our states, and growing in some situations to the enormous height of 12 or 15 feet and bearing a splendid flower of a foot in diameter: salad or Lettuce *Lactuca sativa*, which furnishes in its broad crisped leaves a tender and pleasant esculent for the table; Saffran, *Carthamus tinctorius*, to which the ladies are indebted for a pretty rouge; the beautiful *Mikania scandens*, which forms one of the principal ornaments to our hedges in summer and autumn; Boneset *Eupatorium perfoliatum* of medicinal celebrity. the *Calomeria amaranthoides* or Bonaparte plant, a native of Australasia, in which by a Greek pun, the French botanists contrived to perpetuate the name of their emperor; the family of *Asters*, of which so large a number of species exists in our country; the *Solidago* genus or golden rods, alike numerous as the preceding; the colt's foot *Tussilago*, &c.

XIX.—OF THE CLASS GYNANDRIA.

The plants of this class are very remarkable, whether we consider their peculiarity of form or their manner of growth—they are generally called orchideous plants from the genus orchis, which is a numerous one.

One of the most remarkable kinds among these, is the *Epidendrum*, a parasitic genus, which grows on the trunks of trees, and some of these are capable of existing in full growth and vigor when detached entirely from their habitation and suspended in the air. The sweet aromatic *Vanilla* bean is one of these plants, and grows in S. America. The elegant ladies slipper *Cypripedium* is also of this class and many of them are found in our country The Dutchman's pipe *Aristolochia sipho*, is a very beautiful climbing plant, originally native of our land, and now commonly cultivated—its flower resembles a pipe with its lid. The Virginia snakeroot is a species of the same genus, *A. serpentaria*, and is celebrated for its virtues as a vermifuge.

XX.—OF THE MONŒCIA.

We frequently see on the sea shore and at the mouths of our rivers, apparently long ribband-like blades of grass floating about—these proceed from the *Zostera marina* or grass wrack, a marine plant which seems to be found in all parts of the world.

The cocoa nut palm *Cocos nucifera*, the American grass which affords so extensive an article of food to all countries; the *Zea mays* Indian corn which bears its male or staminate flowers at the top, and its female or pistillate ones in the shape of a long spike, which is succeeded by the ear as it is called and the long silky pistils which hang out beyond the ear in profusion. The *Zizania aquatica* wild rice of our northern states affords to the native Indians a wholesome grain.

Many forest trees are of this class, as the chesnut, oak, beech, pine, laurel, hazle, Bilested (*Liquidambar*) buttonball *Platanus*. One of the most celebrated plants of this class, is the far-famed bohon upas or poison tree of Java, *Ipo toxicaria*, of Persoon, which was formerly famous for its deadly poison and which is said to have even exhaled from the tree and to infest the atmosphere around it, but this has proved to be fabulous. The *Siphonia elastica* India rubber tree, and the very extensive family of sedge grass *Carex*, are also found in this class. This genus is abundant in our country, though not remarkable for beauty of the species or its usefulness to man.

XXI.—OF THE CLASS DIŒCIA.

This class contains those plants which have their fertile and their barren flowers on different individual plants; and it seems to be necessary that a communication should take place between them, so that the pollen of the anthers may be carried to the stigma in order that perfect fruit may be formed. This conjunction is effected in various ways, sometimes by the intervention of the wind which blows the dust from the anthers, which lodges upon the stigma; sometimes by means of insects, who in search of wax or honey, carry off particles of pollen on their wings, which they rub against the stigma in the course of their visits to both flowers. In order that this effect may be rendered more certain, a larger proportion of the pollen is usually found than is requisite to perfect fecundation.

Gardeners understand the mode of procuring delicious varieties of fruit of different kinds and seeds, by crossing the dust of various plants, so that the fruit produced partakes of the different flavor of the respective species employed. Hence the great varieties of musk melons, water melons, apples and other fruits. This process is not confined to plants of this class solely. It may be applied to other classes, by cutting off the anthers before maturity and leaving the stigmas which in fact converts them into dicœcious plants

One of the most remarkable species of this division, is the *Valisneria spiralis*, which differs in a very singular manner in the individual plants which produce the two sorts of flowers. The fertile flower is produced on a long peduncle, which is twisted into a spiral coil and has the faculty of elongating or contracting, according as the water is shoal or deep where it grows, so that the flower always floats on the

surface of the water. The staminate flower is produced under the water on a short peduncle, and when it is ready to blow, it detaches itself altogether from the parent plant, and rising spontaneously to the water's surface, floats among the pistellate flowers until its pollen meets the stigmas, and the process is completed.

Many forest trees of note also belong to this class. The willow, of which many species exist *Salix*; the ash, *Fraxinus*; the sour gum *Nyssa*, an American genus; the hemp *Cannabis*, a Persian plant; the hop *Humulus*; the yam *Dioscorea*, a species of which genus exists in this country; a singular genus of plants called the *Nepenthes destillatoria*, whose leaf somewhat like the *Sarracenia*, is of a shape like a wine glass with a stopper.

XXII.—OF THE CLASS CRYPTOGAMIA.

This class is remarkable for the anomalous forms and extraordinary manner of growth which distinguishes the productions of this division from all others of the vegetable kingdom. So numerous and so diversified are they, that they may almost be regarded as forming a distinct class of objects, and in fact in some of the orders they seem to border on the confines of the animal kingdom and to partake of an animal nature.

The first grand division is the *Ferns*, which approach the nearest to the phenogamous in the structure of their leaves, and the flowers are so entirely different in their forms and fructification, as to bear no single organ of any resemblance to those tribes. Some of these are as remarkable for their immense magnitude as the arboresent Polypodium, which diversify with their magnificent hues and delicate fronds, the landscape of tropical climates. In this country we have not many species of this curious race, though some are highly distinguished for their beauty and delicacy. The lovely *Adiantum* with its deep green fan-shaped frond and its shining black stem, adorns our moist woods and coppices.

The second grand division are the *Mosses*, comprehending the hepated or liverworts.

The third division comprises the *Lichens*, a remarkable assemblage, unlike any others of the division, which contribute to diversify the aspect of our woods and wild scenery, by scattering their various colored patches on the trunks and limbs of trees and on rocks and old fences, while they cover the tops of mountains where no other herbage is found. Some of these are remarkable for their size, as the *Usnea angulata*, which frequently hangs from old trees to the length of 4 or 5 feet. Many of them possess valuable medical properties, as the L. *pulmonaria*; some contain useful materials for dying, as the archil or *Roccella tinctoria*, a native of S. Europe and the Canary Isles, while the cudbear *Lecanora tartarea*, is found in our country as well as in Europe. One of the most valuable is article of food for the reindeer, in the cold inhospitable climate of Lapland, where no other vegetable offers itself for their subsistence. The species of this family are all cosmopolites, capable of sustaining the rigors of all climates however in extremes of heat and cold, moisture and dryness.—The highest summits and the lowest deeps are equally accessible to these erratic hosts.

The fourth division includes the *Algæ*, or sea weeds, and such as are found in moist and aqueous situations on land. Their curious structure and sometimes their immense size, are remarkable particulars concerning them. The *fucus natans* grows to an enormous magnitude, with no perceptible root or fructification, covering the sea to a great depth, so as to impede the navigation of vessels. Some of them are capable of being converted into wholesome nourishment.

But the wonders of this class of beings are reserved for the fifth division, the *Fungi*. Their regular grotesque forms, their rapid evolution and decomposition, their ubiquity as it may almost be termed, for there is scarcely a spot on the globe inaccessible to them, and their wonderful variety and prolific nature, are all so many astonishing circumstances in their history—a large number are capable of becoming excellent food; many are highly poisonous, and some are used for their medical virtues. The Tuckahoe bread of our Indian tribes, *Sclerotum giganteum* is a most nutritious and wholesome esculent—as are also many of the tribe of agarics or mushroons, forming a delightful condiment for the use of our tables.

On the other hand, our various domestic articles are assailed by the destructive influence of tribes of *mucor* or mould, not excepting our household furniture, clothing and food. Our timber is destroyed by the *merulius destruens* or dry rot, and in fact wherever heat and moisture prevail, they invite the depredation of these hostile tribes to finish what destructive insects leave partially destroyed. Although however these beings exert a pernicious influence over dead or decaying matter, perhaps by hastening decomposition and destroying thereby noxious exhalations, they contribute essentially in restoring a healthy state of atmosphere or in producing a renewed and fertile soil for the reception of more wholesome and nutritious vegetables.

The temperature of the southern sections of our country, seems in many parts eminently propitious to the evolution of fungi—some of them attain there a size which is truly astonishing. The *Merulins brassicafolius* occupies a space of three feet and resembles the large leaves of a cabbage. The *Lycoperdon giganteum* is two feet broad. The *Agaricus piperatus* is sometimes of the magnitude of 3 feet.—

Corynæum corticale 3 feet covering the back of its fellow giant the plane. The *Sistrotreme fuscesens* covers branches of trees to the extent of 6 feet. The *Stilbospora maxima* of 12 in. length, on the limbs of trees. *Sphæria pannosa* covering wood to 2 or 3 feet. *Sphæria atropunctata* begirts the trunks of trees in place of their bark, sometimes to an extent of 20 feet in length! which is also the fact with the Boletus tulipifera, likewise investing dead trees to the same extent! The corn smut *Uredo zeæ* frequently extends over whole fields in wet seasons.—Perhaps the most remarkable fungus for its size, is the *Pezixa cacabus*, which is found in the Island of Java, and is upwards of 3 feet in height with a diameter of 25 inches.

ART. 186.—Miscellaneous.

French Method of Transplanting.—During dry weather, the gardeners of Paris do not wait for rain as ours generally do; but, as soon as their crops require removing, it is done in the following manner: Having chosen the spot, they well water the top, and immediately dig it under, and afterwards water the fresh surface, and as soon as it is dry enough, it is raked, and the plants put in without any regard to the mid-day sun; they continue to water the bed three or four times a day, until the plants have taken root. It is surprising how soon lettuces, cabbages, etc. will be well rooted by such treatment, and with what vigour they grow after the first shower of rain. What would have been the state of such plants had they remained in the seed bed? They would have drawn each other; their first leaves would have dropped off, and general debility would have followed, not easy to be removed: but, by the French treatment, not a leaf will be lost. Now, if we consider the principle, it is simply this: that every plant placed in the sun in water will in no way flag, and the continued wet state of the bed for the first few days is similar to it; besides, the presence of the sun contributes powerfully to the rooting of the plants.—*English pap.*

The Stone Pine (*Pinus Cembra.*)—This is one of the most useful trees in Switzerland; it is, indeed, of very slow growth; one of them, cut down when 18 in. in diameter, displayed 353 concentric circles. Its usual growth is a span in height in six years. The timber of this tree has a most agreeable perfume, and is much used for domestic utensils, as well as for wainscoting rooms. A traveller who visited the chateau of Taraspwas struck, in almost every apartment with the perfume of this wood: and he remarks it as a surprising and inexplicable circumstance, that the wood should have exhaled this perfume for some centuries in undiminished strength, and without the wood itself having suffered any decrease of weight. But this wood possesses another recommendation, rooms wainscoted with it are not infested with bugs or moths. Its seeds are esteemed a delicacy; they are eaten in great quantities at the winter parties; and on those occasions, it is said, the female sex display, in extracting them, a high degree of skill, mixed with much innocent gaiety and vivacity. This use of the seeds of the Pinus *Cembra* is not approved of by some who recommend that common in Siberia; there, according to Pallas, an oil is extracted from the seeds, which is used at table, and might be employed in the manufacture of soup. This species of pine is becoming very rare in the Alps. In order to expedite and secure its growth, and thus remove the principal objection to its cultivation, the seeds should be deposited in a compost of earth, and the clippings and leaves of the pinaster and the larch; or this compost should be put round the roots of the young plants.—*For. Rev.*

Oil from Sunflowers.—A very delicate Oil, much used in Russian cookery, is expressed from the seeds of the sunflower, and is prepared by enclosing them in bags, and steeping them in warm water, after which the oil is expressed; this is actually as sweet as butter.—*Scotsman.*

A Strawberry was gathered on the 20th of June, from the garden of Mr. Norris, Bretford End, which measured 13 1-4 in. in circumference, and weighed upwards of 3 oz.—*London Morn. Herald.*

Power of the Sun's Rays.—Mr. Mackintosh, contractor for the government works at Stonehouse Point, Devon, had to descend in the diving bell with workmen to lay the foundation of a sea wall. The machine is fitted with convex glasses in the upper part, to serve the purpose of windows, and Mr. Mackintosh states that, on several occasions in clear weather, he has witnessed the sun's rays so concentrated by the circular windows, as to burn the labourer's clothes when opposed to the focal point, and this notwithstanding the machine was 25 ft. under the surface of the water!—*Bristol Nursery Lib.*

Culture of the Vine in the Crimea.—The valley of Soudaksk, especially towards the east, is said to be one of the most enchanting scenes in the world, and America, Siberia, Italy, and Caucasus are said to offer nothing more delightful. What adds to its charms and its celebrity, is the success which has there attended the culture of the vine; it is even thought that Russia may, at no distant period, produce wine enough in the Crimea for her own consumption. The first vineyards were planted there in the year 1804, at the suggestion of the celebrated naturalist Pallas; the situation is named Gadjakol, in the territory of Kosi. Cuttings of vines were brought from France, Zante, Tenedos, the Rhine, Astrachan and Kizlar; and two Frenchmen, the one a vine-dresser and the

other a farmer, were appointed to plant and to manage them. Ten orphan pupils, from the military school of Cherson, were put under the care of these cultivators; government supplied the necessary capital for every part of the undertaking; and 28,000 vines were planted, which, in the year 1826, produced 1500 vedros of wine of Hungary, Bourdeaux, the Rhine, Asmalhausen, Muscat, Petit-Bourgoyne, Zante, and Kakour, of the best quality.—*Bul. Un.*

Apples.—Apples may be kept all the year round, by being immersed in corn, which receives no injury from their contact. If the American apples were packed among grain, they would arrive here in much finer condition. In Portugal it is customary to have a small ledge in every apartment (immediately under the cornice,) barely wide enough to hold an apple; in this way the ceilings are fringed with fruit, which are not easily got at without a ladder, while one glance of the eye serves to show if any depredations have been committed.—*English Jour.*

Pears.—Pears may be grafted on stocks of the Mountain Ash and the Service Tree; both of which will grow and thrive where pear tree stocks would not. I have also seen apples grafted on quince stocks, and planted in a soil so wet that an apple could not live; but they are doing very well, and making exceedingly fine shoots.—*Rusticus in Urbe.*

Brighton Cattle Market.—We have received from an obliging correspondent, the following view of this great market, from the 29th September, to the 1st of December.

SOLD AT BRIGHTON.

1828.	*Cattle.*	*Sheep.*	*Swine.*
September 29,	1750	4000	1000
October 6,	1374	4257	1227
" 13,	1660	2062	200
" 20,	1500	4000	400
" 27,	2300	5172	100
November 3,	3054	4400	2000
" 10,	3008	4500	600
" 17,	3500	4000	700
" 24,	2200	3000	1000
December 1,	1200	4000	900
	21,546	39,391	8127

AGGREGATES.

21,546 Cattle,	average value	$25 each,	$538,953
39,391 Sheep,	" "	$1,50 do.	59,746
8,127 Swine,	" "	$4,00 do.	28,508
68,504		Total,	626,904

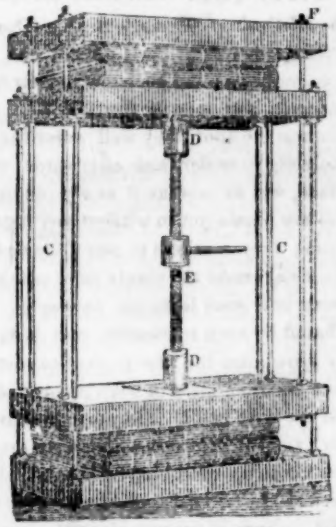
Our correspondent adds,—"The cattle have been unusually large and good, exceeding that of any former season."—*Boston Cent.*

[We copy the following from the N. York Enquirer, of the 27th inst. The pear ripens in November.]

Large Pear.—Sir, I saw with pleasure that in your paper of the 22d inst. you gave an account of a gigantic Pear, presented to the Royal Horticultural Society of Paris. The measures are different from the true size of the pear, which I have received of a member of the committee of said Society, which are as follows:—circumference, 13 inches and two-thirds, in the place of 15 inches; heighth 8 inches, instead of 9 inches; and weight 1 pound 6 ounces, in the place of 1 pound 9 ounces. The trees are sold at 5 francs each in Paris; I have received six of that kind by the late arrival of the Bayard, which are the first introduced in this country; the gentleman who has had the goodness to direct them to me, writes me that this pear is of the first quality, as well for the flavor as for the size. A. PARMENTIER,

Horticultural & botanical Garden, Brooklyn, L. I.

DOUBLE STANDING PRESS



F platens. CC bars of iron. DD female screws. E right and left screws.

This recently invented press requires eight or more round bars of iron, with screws on each sufficiently long to admit a nut on each side of the platens and stationary pieces. There is a left and right hand male screw, which by passing through the female screws and nearly through the platen and stationary part, to which the female screws are fastened, considerably reduces the length of the female screws. The press may be used perpendicularly or horizontally, with a bar in the usual manner, or with an endless screw attached. The power is placed between the articles to be pressed, operating equally on both, thus answering the purposes of two presses.—It may be used for pressing tobacco, cotton, hay, goods of various descriptions, and for making cider. It is also a very convenient cheese press when made of a portable size. (A model at 113 Beekman-st.)